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CIA-RDP86-00513R001964020014-4

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CIA-RDP86-00513R001964020014-4"

ZAYCHENKO T. N.; KUL'VINSKAYA N. A.; RAZUVAYEV G. A.; and FEDOTOV N. S.

Reactions of Tetraphenyl Lead and Tetraphenyl Tin With Chlorides of Metals Which Do Not Form Stable Organo Metallic Compounds, Page 1514, Sbornik statey po obshchey khimii (Collection of Papers on General Chemistry), Vol II, Moscow-Leningrad, 1953, pages 1680-1686.

Gor'skiy State U

ZAYCHENKO, V., kaml.tekhn.nauk; ARZUMANOV, A.

For the absolute safety of labor. Okhr.truda i sots.strakh.  
no.6:78-80 D '58. (MIRA 12:1)

1. Starshiy inzhener Vsesoyuznogo nauchno-issledovatel'skogo inati-  
tuta bezopasnosti Ministerstva neftyanoy promyshlennosti AzerSSR  
(for Arzumanov).  
(Radioactivity--Safety measures)

ZAYCHENKO, V.; BAUMAN, V.

Experience in using stabilized pilot balloons for measuring vertical motions in the atmosphere. Trudy OOMI no.11:173-188 '57. (MIRA 11:3)  
(Atmosphere, Upper)

ЗАТОНЕНКО, В.; БАУМАН, В.

Vertical velocity formula of radiosondes. Trudy OGI no.11:159-172  
'57. (MIRA 11:3)

(Radiosondes)

ZAYCHENKO, V.; ESTRIN, R.

Checking for leakage of underground gas pipelines. Nov.neft.tekh:  
Nefteprom.delo no.6:35-38 '54. (MIRA 14:10)  
(Gas, Natural--Pipelines)

ZAYCHENKO, V.A.; BAUMAN, V.A.

Winds at the resort of Yevpatoriya. Trudy OGMI no.28:19-26  
'62. (MIRA 16:6)

(Yevpatoriya--Winds)

ZAYCHENKO, V.K.

Continuous cooking of starchy raw materials at the Mirotskii  
plant. Spirt. prom. 24 no.3:24-27 '58. (MIRA 11:6)  
(Distilling industries)





ZAYCHENKO, V.A.

USSR/Physics of High - Molecular Substances

D-9

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11548

Author : Zaychenko, V.A., Bauman, V.A.

Inst :                     

Title : Concerning the Problem of the Diffusion of Hydrogen Through  
a Rubber Sheath of a Pilot Balloon.

Orig Pub : Tr. Odessk. gidrometeorol. in-ta, 1956, vyp. 8, 215-236

Abstract : No abstract.

Card 1/1

BELOV, K.A.; ZAYCHENKO, V.M.; ARONOV, S.G.; TYUTYUNNIKOV, Yu.B.;  
TSEPURIT, V.Ya.

Coking of Donets Basin gas coals of a large screen composition.  
Koks i khim. no.12:10-13 '62. (MIRA 16:1)

1. Khar'kovskiy politekhnicheskii institut (for Belov, Zaychenko).
2. Ukrainskiy uglekhimicheskii institut (for Aronov, Tyutyunnikov,  
Tsepurit).

(Donets Basin—Coal)

(Coke industry)

BELOV, K.A.; ZAYCHENKO, V.M.

Coking uncrushed gas coals. Koks i khim. no.8:6-9 '61.  
- (MIRA 15:1)

1. Khar'kovskiy politekhnicheskii institut.  
(Coke)

NARYSHKIN, I.I.; ZAYCHENKO, V.N.

Polarographic determination of the diffusion coefficients of zinc, manganese, and cadmium ions in fused lithium and potassium chlorides. Zhur.prikl.khim. 37 no.1:214-215 Ja '64. (MIRA 17:2)

S/032/61/027/003/008/025  
B101/B203

AUTHORS: Markosov, P. I., Zaychenko, V. N., and Lityayeva, Z. A.  
TITLE: Determination of carbon monoxide microimpurities in ethylene  
PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 3, 1961, 285-287

TEXT: Industrial concentrated ethylene should not contain more than one-thousandth percent parts of carbon monoxide. A chromatographic method was developed to determine CO in  $C_2H_4$ . The Soviet XT 2M (KhT-2M) chromathermograph is used. 0.1-0.5 l of the gas to be analyzed are adsorbed on AP-3 (AR-3) activated carbon. Fractional desorption of components by the passing-through of air follows. The easily volatile impurities are separated out without heating. In the chromatogram, the CO appears between  $H_2$  and  $CH_4$ . After the separation of  $CH_4$ , the chromatographic column is heated to desorb  $C_2H_4$  and  $C_2H_6$ . Fig. 1 shows chromatograms, Fig. 2 the calibration curve plotted by means of samples with added known CO content. 150 ml of the gas to be analyzed is passed through 19 g of activated carbon at a rate

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Determination of ...

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of 4-5 ml/min. 15 min after the passage of gas, air is sent through at a rate of 50 ml/min. The analysis becomes more accurate by passing 350 ml of gas (instead of 150 ml) through the chromatographic column. The areas of the CO peaks are proportional to the CO content. Under constant desorption conditions, the quantitative determination of impurities may simply be done according to the height of peaks. There are 2 figures and 1 table.

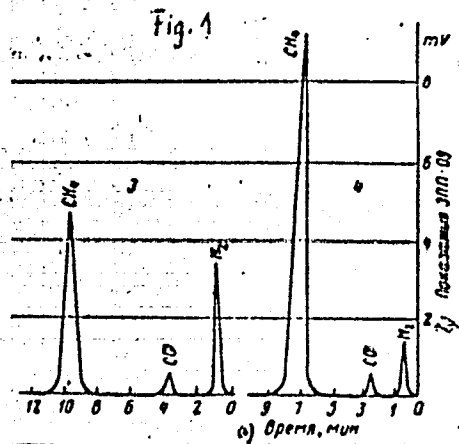
ASSOCIATION: Krasnodarskiy filial Vsesoyuznogo nauchno-issledovatel'skogo neftegazovogo instituta (Krasnodar Branch of the All-Union Scientific Research Institute of Petroleum and Gas)

Card 2/4

Determination of ...

Legend to Fig. 1: Chromatograms of ethylene with different contents of carbon monoxide. 3) 0.004% CO, gas volume 150 ml; 4) 0.002% CO, gas volume 350 ml; a) time, min; b) indication of the ЭПМ-09 (EPP-09) recorder.

S/032/61/027/003/008/025  
B101/B203



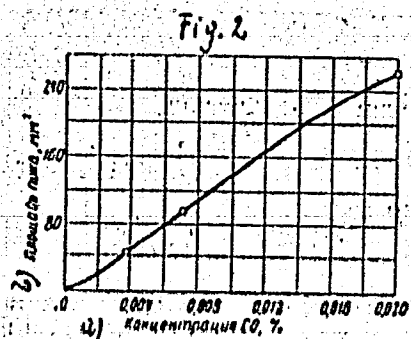
Card 3/4



Determination of ...

S/032/61/027/003/008/025  
B101/B203

Legend to Fig. 2: Calibration curve.  
a) Concentration; b) peak area, mm<sup>2</sup>.



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ZAYCHENKO, V.N.; ARZUMANOV, A.A.

Protective measures in using radioactive substances in field  
geophysics. Trudy VNIITB no.11:13-24 '59. (MIRA 15:5)  
(Oil well logging, Radiation—Safety measures)

~~ZAYCHENKO, V.M.~~, kand.tekhn.nauk; MEDVEDOVA, L.V., inzh.; YUSUFOVA, K.G.,  
inzh.; KHODZHAYEVA, L.I., inzh.

Portable eudiometer for the protection of gasoline vapors.  
Bezop.truda v prom. 3 no.5:24-25 My '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po tekhnike  
bezopasnosti v neftyanoy promyshlennosti, Baku.  
(Eudiometer)

ZAICHENKO, V.N.,  
S. I. ASHURLI, Russ. 66,431, May 31, 1946.

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7 AYCHENKO, V N

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LITYAYEVA, Z.A.; MARKOSOV, P.I.; ZAYCHENKO, V.N.

Chromatographic determination of carbon monoxide, methane,  
and acetylene in high-purity ethylene. Trudy KB VNI no.8:  
110-124 '62. (MIRA 17:5)

ZAYCHENKO, V.N.; MEL'NIKOV, L.F.; YEMEL'YANOVA, G.V.

Polymerization of ethylene in electric discharge. Trudy  
KF VNI no.8:102-109 '62. (MIRA 17:5)

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**CIA-RDP86-00513R001964020014-4"**

MARKOSOV, P.I.; ZAYCHENKO, V.N.; LITYAYEVA, Z.A.

Detection of a carbon monoxide microimpurity in ethylene. Zav. lab. 27  
no. 3:285-287 '61. (MIRA 14:3)

1. Krasnodarskiy filial Vsesoyuznogo nauchno-issledovatel'skogo  
neftegasovogo instituta.  
(Carbon monoxide) (Ethylene)

ZAYCHENKO, V.N.; MEDVEDEVA, L.V.; YUSUFOVA, K.G.

Portable gas analyzers for controlling the air of oil and ozocerite  
mines where explosive mixtures are present. Trudy VNIITB no.10:  
75-82 '58. (MIRA 1515)  
(Petroleum mining--Safety measures) (Ozocerite) (Gas, Natural)

ZAYCHENKO, V.N.; LITYAYEVA, Z.A.; MARKOSOV, P.I.

Chromatographic determination of microimpurities of carbon monoxide, methane, and acetylene in ethylene used for the production of polyethylene. Azerb.khim.zhur. no.6:127-135 '61. (MIRA 15:5)  
(Ethylene) (Polyethylene)

BELOMAR, O.D.; ZAYCHENKO, V.Yu.; KIRICHENKO, N.M.; CHUYUN, A.B.

Results of sampling in neutron-neutron logging in the coal deposits  
of the Donets Basin. Dop. AN URSR no.5:602-606 '63. (MIRA 17:9)

1. Institut mineral'nykh resursov AN UkrSSR. Predstavleno akademikom  
AN UkrSSR S.I. Subbotinym.

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S/096/60/000/07/012/022  
E194/E455

5.1230

AUTHORS: Sherstyuk, A.N., Candidate of Technical Sciences,  
Zaychenko, Ye.N., Ignat'yevskiy, Ye.A. and  
Sokolov, A.I., Engineers

TITLE: An Investigation of Inlet Pipe Nozzles for Centrifugal  
Compressors

PERIODICAL: Teploenergetika, 1960, Nr 7, pp 56-59 (USSR)

ABSTRACT: The design of the inlet pipe influences the efficiency of a compressor in two ways. Firstly, losses in the inlet pipe itself directly reduce the efficiency of the compressor. More important, the shape of the inlet pipe influences the velocity distribution at inlet to the runner. If the distribution becomes unsuitable it can appreciably reduce the efficiency of the runner because the angles of attack at the inlet edge differ from the required values. Despite the practical importance of this question, little experimental work has been done upon it. Accordingly, the present work gives the results of the first stage of an investigation on axially-symmetrical inlet pipes. The tests were made not on a compressor but on a special rig, illustrated in Fig 1,

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# An Investigation of Inlet Pipe Nozzles for Centrifugal Compressors

which allows the influence of the runner to be excluded. However, the outline of the duct beyond the inlet pipe is made the same as in a normal runner in order to obtain the required boundary conditions. Tests were taken on 8 types of inlet pipe, 5 being axial and 3 radial. Sketches of the inlet pipes are given in Fig 2. Combined data on the losses are also plotted in the graphs of Fig 2 in each case as functions of Reynolds number. Since Mach numbers were small (less than 0.35), the test results were worked out without allowing for compressibility. All the inlet pipes, except type OR-80-V, have very low loss factors because of the low values of Reynolds number and in all cases there is an appreciable reduction in the losses as the Reynolds number increases. As was to be expected, the axial inlet pipe with the least losses is that in which the ratio of the inlet diameter to the outlet section is greatest. The greatest losses were obtained with the cylindrical inlet pipes. The tests show the advantages of using short cowls over the runner inlet. Data on the velocity distribution in the discharge section of the

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# An Investigation of Inlet Pipe Nozzles for Centrifugal Compressors

inlet pipe are also presented in Fig 2. The tests were made for various values of average speed up to 110 metres/sec but because of the very slight influence of the Reynolds number of the velocity distribution Fig 2 gives mean curves. In all cases, except those of the conical and cylindrical inlet tubes, there is marked distortion of the velocity distribution. If the runner were designed without allowing for this distortion, there could be substantial reduction in efficiency. In the axial inlet tubes, the velocity distribution depends on the length of the cowl. It is most uniform with a cowl of medium length and comparatively uniform with a cylindrical inlet tube; but cylindrical tubes are not to be recommended because of their inherently high losses. Conical inlet tubes give a uniform velocity field and have small losses. Thus they are the most suitable of the axial inlet tubes, provided they can be accommodated in the overall dimensions. Their main disadvantage is their great length which can be overcome by making a profile of the kind illustrated in Fig 3. The results

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An Investigation of Inlet Pipe Nozzles for Centrifugal Compressors

with the radial and diagonal inlet tubes are of special interest because these types sometimes have to be used and it is obvious that the runner design must make appropriate allowance for changes in the velocity distribution. Moreover, inlet tubes of this kind should not be used at high peripheral speeds because the Mach number at the tips of the discharge edges of the runner blades becomes excessive. One of the tasks of the work was to evaluate the reliability of approximate methods of calculating the velocity in relation to the design of the inlet tubes. The point is that approximate methods of calculating on curved channels are sufficiently accurate only if the boundary of the channel changes curvature smoothly. In the case under consideration, the change in curvature is not smooth; from the experimental results and velocity data given in Fig 4, it is concluded that approximate methods of calculation are not sufficiently accurate. Differences between test and calculated velocities may be 10 to 20% and, therefore, in important cases the velocity should

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An Investigation of Inlet Pipe Nozzles for Centrifugal Compressors *X*  
be determined experimentally. There are 4 figures and  
3 Soviet references.

ASSOCIATION: MEI - NAMI (Moscow Power Institute and NAMI)

Card 5/5

ZAYCHENKO, Ye. N.; KARASEV, S. S.

Pickup for measuring the number of revolutions of the rotor  
of a turbosupercharger. Avt. prom. 28 no.9:44-45 S '62.  
(MIRA 15:10)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni  
nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.

(Automobiles--Engines--Superchargers)

ZAYCHENKO, Ye.N.; KAPRALOV, B.I.

Comparison of fuel efficiency of motor-vehicle engines by testing  
results. Avt.prom. 29 no.9:9-10 S '63. (MIRA 16:9)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni  
nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.  
(Motor vehicles—Engines)

KHANIN, N.S.; SHERSTYUK, A.N.; ZAYCHENKO, Ye.N.; DINEYEV, Ym.N.;  
PORTNOV, D.A., doktor tekhn.nauk, prof., retsenzent

[Supercharging and superchargers of motor-vehicle engines]  
Naddav i magnetateli avtomobil'nykh dvigatelei. Moskva,  
Mashinostroenie, 1965. 221 p. (MIRA 18:8)

L 39692-66 ENT(1)/I-2/ESP(1) WH/CD-2

ACC NR: AP6009726 (A) SOURCE CODE: UR/0114/66/000/003/0026/0029

AUTHOR: Zaychenko, Ye. N. (Engineer); Kruger, V. A. (Engineer);  
Aboltin, E. V. (Engineer)

/2  
B

ORG: none

TITLE: Investigation of the effect of vaneless<sup>23</sup>-diffuser width upon compressor  
characteristics

SOURCE: Energomashinostroyeniye, no. 3, 1966, 26-29

TOPIC TAGS: compressor, diffuser, diffuser design

ABSTRACT: Some results of an experimental investigation of a centrifugal compressor with an axiradial impeller are reported. Standard characteristics of the compressor were measured at a constant speed (33000 rpm or 242 m/sec) and at different widths of its vaneless diffuser. Three groups of experiments with

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UDC: 621.515.001.5

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ACC NR: AP6009726

three different impellers (K86-7,5; K78-7,5; K78-11) were conducted. The ratio  $b_3 = b_3/b_2$  was varied between 0.72 and 1.507. These findings are reported:  
 (1) Variation of the diffuser-width to blade-width ratio  $0.9 < b_3/b_2 < 1.2$  and also variation of the widening of the vaneless diffuser,  $0.843 < b_4/b_3 < 1.15$ , do not appreciably affect the compressor efficiency (in the region of small and partially medium values of the flow coefficient  $\varphi$ ); outside the above limits, and particularly with higher  $\varphi$  values, the effect is appreciable; hence, a vaneless-diffuser width of  $b_3 \approx b_2$  is recommended; (2) The variation of  $b_3/b_2$  within the investigated range does not permit adjusting the compressor characteristic in accordance with the air discharge; (3) The variation of the diffuser airflow area within the above range does not appreciably affect the energy received by the air in the compressor impeller. Orig. art. has: 3 figures, 3 formulas, and 2 tables.

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 006

Card 2/2 *gd*

L 45971-66 EWT(1)/EWT(m)/EWP(w)/EWP(f)/EWP(v)/T-2/EWP(k) IJP(c) WW/EM/GD/  
 ACC NR: AT6026433 JXT(CZ) (N) SOURCE CODE: UR/0000/66/000/000/0069/0082

AUTHOR: Zaychenko, Ye. N.

ORG: None

TITLE: Compact high-speed centrifugal turbocompressors

SOURCE: Leningrad. Nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya, Tsentrobezhnyye kompressornyye mashiny (Centrifugal compressors). Moscow, Izd-vo Mashinostroyeniya, 1966, 69-82

TOPIC TAGS: turbine compressor, centrifugal compressor, temperature measurement, torque, conductive heat transfer, diffuser performance

ABSTRACT: The author studies experimental turbocompressors with half-open working wheels having radial blades (D=140; 135 and 130 mm). The tests were carried out on a balancing stand. Two methods are used for determining turbocompressor efficiency: temperature measurement and torque measurement. Both of these methods give similar results. The tests are used as a basis for studying design principles of turbocompressors excluding turbine-to-blower heat transfer. Three methods for studying centrifugal compressors are used for determining the finite number of blades and the useful energy supplied to the air passing through the working wheel: the velocity triangle, temperature measurement and power methods. An empirical formula for de-

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ACC NR: AT6026433

termining this factor is derived on the basis of the three methods. The results obtained by this formula coincide with those obtained by using P. K. Kazandzhan's formula. An expression is given for calculating the wheel flow factor. This formula was derived as a result of a simplified flow-diagram analysis of the wheel channels between the blades. A balance loss equation is given for the blower. Experimental data are obtained which determine the effect of the following geometric parameters on blower characteristics: the effect of the angle of incidence to the wheel, the meridian section of the wheel, the height of the blade at the wheel exit, diameter of the wheel at the intake, number of working blades, type of diffuser and air collector. Optimum geometric parameters are determined for the basic blower elements. A simplified physical model is set up for working wheel processes. The effect of secondary flows in the wheel on wheel and blower characteristics is determined. Data from this study were used to set up a flat curve where the maximum efficiency values are 0.75 for blowers with 130 mm diameter wheels and 0.775 for bladed diffusers. Orig. art. has: 8 figures, 1 table, 20 formulas.

SUB CODE: 13/ SUBM DATE: 08Jan66/ ORIG REF: 003/ OTH REF: 001

Card 2/2 blg

15-1957-10-13935

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,  
p 83 (USSR)

AUTHOR: Zaychenko, Ye. P.

TITLE: Some Problems on the Petrology of the Middle Devonian  
Intrusive Complex of Altay (Nekotoryye voprosy petrologii  
srednedevonskogo intruzivnogo kompleksa Altaya)

PERIODICAL: Tr. Tomskogo un-ta, 1956, vol 135, pp 77-82

ABSTRACT: The complex of Middle Devonian alkaline intrusions of  
the Altay foothills, occurring in the Turochakskiy,  
Ayskiy, and Sarakokshinskiy masses, is divided into 1)  
a unit of the granite-porphyry type (granite porphyry,  
fine-grained alkaline granite, and syenite porphyry),  
closely associated with both effusive and intrusive va-  
rieties; and 2) a unit of the granite type (alkaline  
medium-grained granites, granophyres, quartz syenites  
and, very rarely, syenites and slightly quartz-bearing  
syenites). Small stock-like and tabular bodies occur in  
all three masses mentioned above. The alkaline granites

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Some Problems on the Petrology of the Middle Devonian Intrusive Complex of Altay 15-1957-10-13935

in the central part of the Gornyy Altay, which form small stocks and cross-cutting dikes, contain the following minerals: quartz 30-39%, perthitic orthoclase 54-60%, riebeckite 4-14%, and oligoclase 0.2-2.7%. Small tabular bodies, dikes, and small stocks of granite porphyries, fine-grained alkaline granites, fine-grained adamellites, and granophyres occur in the western part of the central Altay in the midst of Middle Devonian effusives. Middle Devonian intrusives in the southern part of the Gornyy Altay are quartz porphyries and granite porphyries. The rocks of the intrusive complex are characterized by grayish-brown, pink, and brick-red colors, by hypidiomorphic-granular and also micropegmatitic and granophyric textures, by oversaturation of  $\text{SiO}_2$ , by high alkalies and low  $\text{CaO}$ , by a poverty of dark minerals, and by an extreme dearth of accessories. The contact effects on the adjacent rocks resulted in the weak development of hornfels and the slight growth of actinolite and epidote. The Middle Devonian intrusive complex is generally confined to tectonic zones and is always closely associated in space with

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Some Problems on the Petrology of the Middle Devonian Intrusive Complex of Altay

15-1957-10-13935

Middle Devonian effusives. The rocks of the complex are apparently products of the crystallization of the same magma in a distinctly hypabyssal environment.

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S. P. Bryzgalina

ZAYCHENKO, I.Z.; SAKHNO, Yu.A.

Using hydraulic dividing valves in synchronizing the operating  
elements of machine tools. Stan. i Instr. 36 no.11:16-19 N '65.  
(MIRA 18.11)

ZAYCHENKO, G.Ye., kand. tekhn. nauk; ZAYCHENKO, V.A., inzh.; KRYUCHKOV, A.S.

Use of ZER-500 rotary excavators in the Chasov-Yar open-cut  
mines. Gor. zhur. no.10:59-63 O '65. (MIPA 18:11)

1. Institut NIIKMA (for G.Zaychenko, V.Zaychenko). 2. Chkalovskiy  
gornobogatitel'nyy kombinat (for Kryuchkov).

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EPN/ENT(M)/ENP(W)/ENP(F)/ENP(T)/ENP(S)/ENP(L)/ENP(B)/ENP(O)/ENP(N)/ENP(D)/ENP(C)/ENP(A)/ENP(V)/ENP(X)/ENP(Y)/ENP(Z)

ACC

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CIA-RDP86-00513R001964020014-4"

ZAYCHENKO, Ye.N., ADOLFIN, E.V.

Power needed for the drive of the turbocompressor supercharger  
of a motor-vehicle engine. Avt. prom. 31 no.9:6-9 S '65.

(MIRA 18:9)

1. Tsentral'nyy nauchno-issledovatel'skiy ordena Trudovogo  
Krasnogo Znameni avtomobil'nyy i avtomotornyy institut.



ACC NR: AP6033622

SOURCE CODE: UR/0102/66/000/005/0015/0027

AUTHOR: Volokhov, V. S. (Kiev); Zaychenko, Yu. P. (Kiev)

ORG: none

TITLE: Dispersion method of spontaneous division of image space into compact sets-images

SOURCE: Avtomatyka, no. 5, 1966, 15-27

TOPIC TAGS: image recognition, recognition process, *INFORMATION THEORY*

ABSTRACT: The possibility of using the main components of a spot matrix of covariations for image recognition is described. It is pointed out that in cases when classifying functions are linear, the vector with small proper value serves as a sufficient description and can be used for optimum classification. The article presents a dispersion method for spontaneous training of the recognition system. The use of the vector with the greatest proper value for solution of a spontaneous image recognition problem is shown. The authors proposed a method of successive subdivision of spot space into categories, based on the calculation of the main vector of a spot matrix of covariation. Two examples are given of spontaneous optimum subdivision of image space into two images (classes). Orig. art. has: 4 figures, 14 formulas, and 5 tables.

SUB CODE: 09/, SUBM DATE: 12May66/, ORIG REF: 006/ OTH REF: 003/  
Card 1/1

ZAYORIK, A.

Directors of study and consultation centers exchange experiences.  
Fin.SSSR 18 no.6:94-95 Je '57. (MIRA 10:12)

(Finance--Study and teaching)

ZAYCHIK, A.Sh. (Leningrad)

Significance of the thyroid gland in the reaction of the adrenal cortex to ACTH. (Ark. pat. 27 no.11:30-34 '65.

(MIRA 18:12)

1. Kafedra patologicheskoy fiziologii (zav. - prof. L.R.Perel'man)  
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.  
Submitted April 2, 1964.

ARTAMONOV, Mikhail Dmitriyevich; MIKHAYLOVSKIY, Yuriy Vsevolodovich;  
PUSHKAROV, B.A., retsenzent; MOROZOV, K.P., retsenzent;  
ZAYCHIK, G.I., red.; GORYUNOVA, L.K., red.isd-va; BACHURINA,  
A.M., tekhn.red.

[Traction machinery in the logging industry] Tiagovye mashiny  
na lesozagotovkakh. Moskva, Goslesbuzhizdat, 1959. 326 p.  
(MIRA 13:5)

(Tractors)

ZAYCHIK G.I

VOZHESENSKIY, Nikolay Petrovich, prof., doktor tekhn.nauk; ZAYCHIK, Gertael'

Il'ich, prof., doktor tekhn.nauk; KOGAN, Yu.A., kand.tekhn.nauk,  
dots., retsenzent; BABUSHKIN, I.N., red.; PITERMAN, Ye.L., red.  
izd-va; GORYUNOVA, L.K., red.izd-va; SHITS, V.P., tekhn.red.

[Logging tractors and trucks] Lesovoznye traktory i avtomobili.  
Moskva, Goslesbunizdat. Pt.1. [Heavy machinery] Tiagovye mashiny.  
1958. 439 p. (MIRA 11:6)

(Tractors) (Motortrucks)

ZAYCHIK, G.I., prof., doktor tekhn.nauk

Turning gear for crawler-type logging tractors. Nauch. trudy  
MLTI no.10:50-63 '60. (MIRA 14:3)  
(Crawler tractors)

*ZAYCHIK, G.I.*

KAREL'SKIKH, D.K., prof.; APASHEV, M.D., kand.tekhn.nauk; BARSKIY, I.B.,  
kand.tekhn.nauk; *ZAYCHIK, G.I.*, doktor tekhn.nauk, retsentsent;  
ANOKHIN, V.I., kand.tekhn.nauk, retsentsent; ZARETSKIY, B.I.,  
inzh., red.; POPOVA, S.M., tekhn.red.

[Theory, design, and engineering analysis of tractors] Teoriia,  
konstruktsiia i raschet traktorov. Moskva, Gos.nauchno-tekhn.  
izd-vo mashinostroit. lit-ry. [Pt.3. Theory and analysis of  
tractor chassis] Teoriia i raschet shassi traktorov. Pod obshchei  
red. D.K.Karel'skikh. 1950. 144 p. (MIRA 11:12)  
(Tractors)

GOL'DBERG, Aleksandr Moritsevich; ZAYCHIK, G.I., prof., doktor tekhn.  
nauk, retsenzent; YERAKHTIN, D.D., dotsent, retsenzent;  
SOLOV'YEV, N.S., red.; PITERMAN, Ye.L., red.izd-va; BACHURINA,  
A.M., tekhn.red.

[Engines for machines used in lumber transportation] Dvigateli  
lesotransportnykh mashin. Moskva, Goslesbumizdat, 1959. 470 p.  
(MIRA 12:7)

(Engines) (Lumbering--Equipment and supplies)



ZAYCHIK, G. I.

ROMANENKO, Pavel Mikanorovich, professor; MOROZOV, Aleksandr Viktorovich, dotsent; ZAYCHIK, G. I., professor, dotsent; MATVEYEV, G. A., redaktor; PITERMAN, Ye. L., redaktor izdatel'stva; KARASIK, N. P., tekhnicheskiy redaktor; SHITS, V. P., tekhnicheskiy redaktor

[Heatpower equipment in the lumbering and woodworking industry]  
Teplosilovye ustanovki lesozagotovitel'noi i derevoobrabatyvayushchey  
promyshlennosti. Moskva, Goslesbumizdat, 1956. 471 p. (MLR 10:10)  
(Electric power plants)

LYZO, Georgiy Pavlovich, kandidat tekhnicheskikh nauk; LYZO, Aleksandr Pavlovich, kandidat tekhnicheskikh nauk; BARSKIY, Igor' Borisovich, kandidat tekhnicheskikh nauk; ZAYCHIK, G.I., doktor tekhnicheskikh nauk, professor, retsenzent; TREPEHNENKOV, I.I., kandidat tekhnicheskikh nauk, retsenzent; YAKOBI, M.A., kandidat tekhnicheskikh nauk, redaktor; SOKOLOVA, T.F., tekhnicheskiiy redaktor

[Tractor designs] Konstruktsii traktorov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 559 p. (MIRA 10:1)  
(Tractors)

ZAYCHIK, I.

Control over the length of the periods of construction. Den. 1  
kred. 20 no.3:63 Mr '62. (MIRA 15:3)

1. Starshiy ekonomist Khersonskoy kontory Gosbanka.  
(Construction industry) (Banks and banking)

1. ZAYCHIK, I.
2. USSR (600)
4. Radar
7. Brochure on Radar ("Radar Technique and its application." K. A. Trankin. Reviewed by I. Zaychik.) Radio no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

ZAYCHIK, Issy Yur'yevich, inzh.; USOV, Sergey Nikolayevich, inzh.;  
CHISTYAKOV N.I., doktor tekhn. nauk, prof., retsenzent;  
BULANOV, Yu.A., преподаvatel', inzh., retsenzent; BRAMMER,  
Yu.A., kand. tekhn. nauk, nauchn. red.; BASAVINA, Ye.V.,  
red.

[Textbook on amplifying and radio receiving devices] Za-  
dachnik po usilitel'nyim i radiopriemnym ustroystvam. Mc-  
skva, Vysshaya shkola, 1965. 315 p. (MIRA 18:11)

1. Moskovskiy elektrotekhnicheskiy institut svyazi (for  
Chistyakov). 2. Moskovskiy tekhnikum avtomatiki i teleme-  
khaniki (for Bulanov).

"APPROVED FOR RELEASE: 03/15/2001

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**APPROVED FOR RELEASE: 03/15/2001**

**CIA-RDP86-00513R001964020014-4"**

ZAYCHIK, Kopel' Simonovich, inzh.; TERENT'YEV, Georgiy Bor'ovich,  
kand. tekhn. nauk; ROKOV, A.I., kand. tekhn. nauk,  
retsenzent; SLUCHAK, L.V., inzh.; retsenzent; KAMINSKIY,  
Ye.V., nauchn. red.; KUSKOVA, A.I., red.

[Seagoing fishing boats] Morskoe rybnopromyshlennye suda.  
Leningrad, Sudostroenie, 1965. 371 p. (MIRA 18:10)



ZAYCHIK, L. I.

Zaychik, L. I. and Chayev, I. Ye. "An investigation of the operation of pneumatic tubing",  
Neft. khoz-vo, 1948, No. 12, p. 39-44.

SO: U-2882, 12 Feb. 53, (Istopis' Zhurnal 'nykh Statey, No. 2, 1949).

00251

S/135/61/000/002/005/012  
A006/A001

1.5400

AUTHORS: Zaychik, I. V., Candidate of Technical Sciences, Komissarchik, B. Yu.,  
Engineer

TITLE: The Effect of Drive Inertia on the Electrode Force During Spot and  
Seam Welding

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 2, pp. 14-15

TEXT: The authors studied the effect of inertia of the upper electrode drive  
in spot and seam welding machines on the magnitude of the force compressing the  
parts during the formation of the weld joint. Equations are given to calculate the  
force on the electrodes prior to welding  $P_{el} = Q + P_{dr}$  (1) and during welding  
 $P_{el} = P_{el0} - Q \frac{a}{g}$  (2) where  $Q$  is the weight of the parts moving together with the  
upper electrode;  $P_{dr}$  is the force developed by the working drive element;  $g$  is  
the acceleration of gravity;  $a$  is the acceleration of moving parts during welding.  
By introducing the dimensionless parameters

$$P_{el}^* = \frac{P_{el}}{P_{el0}}; \quad a^* = \frac{a}{g}; \quad \eta = \frac{P_{el0}}{Q} = 1 + \frac{P_{dr}}{Q}$$

it follows from equations (1) and (2) that  
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# The Effect of Drive Inertia on the Electrode Force During Spot and Seam Welding

$$P_{el}^* = \frac{Q(1 - a^*) + P_{dr}}{Q + P_{dr}} = 1 - \frac{a^*}{\eta} = (a^*, \eta) \quad (3)$$

The calculation shows that  $P_{el}$  which characterizes the changes of forces during welding, is a function of the relative acceleration  $a^*$  and of the parameter  $\eta$ , which determines the relation between the force developed by the drive and the weight of the moving parts. The value  $a^*$  is mainly determined by characteristics of the part to be welded and by the welding conditions;  $\eta$  is determined for the given welding conditions by the machine design. Graph 1 shows the dependence of  $P_{el}$  on  $a^*$  and Graph 2 shows the dependence of  $a^*$  on  $\eta$ . With reference to data submitted by Yu. A. Pachentsev (Ref. 1, 2) the authors draw the following conclusions. In spot and seam welding the acceleration of the upper electrode portion during welding causes an increase in the forces compressing the parts at the beginning of heating and a reduction of these forces at the end of heating. Correlations of the weight of the moving parts, the acceleration and the drive force, are such that maximum changes in the compressive force in connection with inertia of the moving parts do not exceed 20% of the static force in modern machines (Table). Changes in the magnitude of forces on these machines are

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# The Effect of Drive Inertia on the Electrode Force During Spot and Seam Welding

probably connected with the fact that their drives are jammed and not with inertia of the moving parts. This causes considerable and unstable changes of the compressive force.

Figure 1

Dependence of  $P_{e1}^*$  on  $a^*$ :

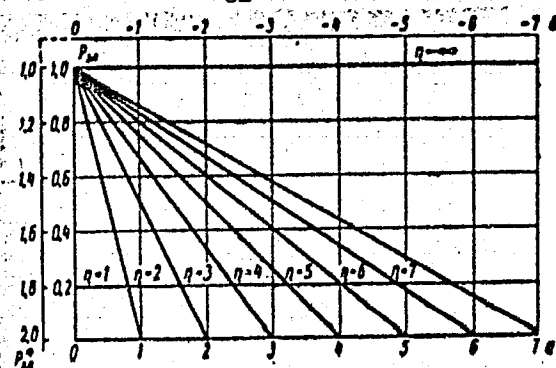
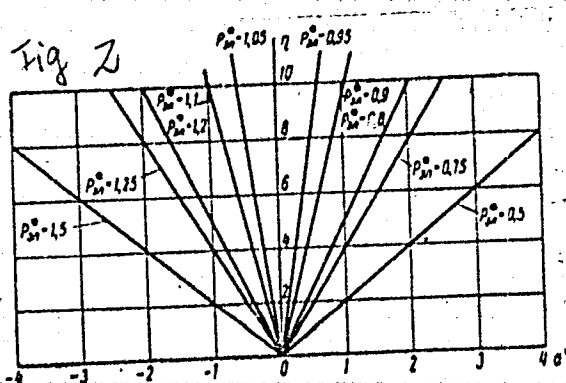


Figure 2

Dependence of  $a^*$  on  $\eta$ :



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The Effect of Drive Inertia on the Electrode Force During Spot and Seam Welding

Table

Machine type	Q in kg	P <sub>el 0</sub> in kg		$\eta$		a* when P* <sub>el</sub> = 0.8	
		max	min	max	min	P <sub>el 0</sub> max	P <sub>el 0</sub> min
MTП-75 (MTP-75) spot welding machine	40	700	150	17.5	3.7	5.8	0.8
MTП-300 (MTP-300) spot welding machine	200	2,700	500	13.5	2.5	2.8	0.5
МШП-100 (MShP-100) seam welding machine(150)	130	800	150	6.1	1.15	1.15	0.25
MTПТ-600 (MTPT-600) spot welding machine	300	2,500	500	8.3	1.65	1.6	0.35

There are 2 figures, 1 table and 2 Soviet references.  
ASSOCIATION: VNIIESO

Card 4/4.

ZAYCHIK, L.V.; ORLOV, B.D.; CHULOSHNIKOV, P.L.; MASLOV, G.A.,  
dots., red.; SOBOLEVA, G.N., red.izd-va; SMIRNOVA, G.V.,  
tekhn. red.

[Electric resistance welding of light alloys] Kontaktnaya  
elektrosvarka legkikh splavov. Moskva, Mashgiz, 1963. 217 p.  
(MIRA 17:1)

(Aluminum alloys--Welding)  
(Magnesium alloys--Welding)

AM4021133

BOOK EXPLOITATION

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Zaychik, L. V.; Orlov, B. D.; Chuloshnikov, P. L.

Electric resistance welding of light alloys (Kontaktnaya elektrosvarka legkikh splavov), Moscow, Mashgiz, 1963, 217 p., illus., biblio., errata slip inserted. 7,500 copies printed.

TOPIC TAGS: Aluminum alloy, magnesium alloy, beryllium sheet, EI712, OT4, V95AT, AMg6, D16AT, 1Kh18N9T, MA8, spot welding, roller welding, butt welding, glue welding, welding equipment

PURPOSE AND COVERAGE: This book gives basic information on the technology of electric resistance welding, spot welding, and roller welding of articles from aluminum and magnesium alloys. The welding equipment and the control equipment are described. The basic methods and techniques of quality control of weldments are presented. The material in the book can be used to design welded structures and to develop new welding equipment. The book is intended for engineers and technicians who work in welding technology.

TABLE OF CONTENTS [abridged]:

Card 2/2

11/625  
S/135/63/000/001/010/016  
A005/A101

AUTHORS: Kochanovskiy, N. Ya., Zaychik, L. V., Candidates of Technical Sciences

TITLE: Using d-c in resistance welding

PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1963, 35 - 36

TEXT: The advantages of using d-c for resistance welding are: uniform load of the three-phase circuit; reduction of the required network power by a factor of 1.5 - 5; increase of the power coefficient; reduced power consumption; and elimination of the effect of the magnetic masses in the machine contour upon the welding current. The power supply of electric welding machines is satisfactorily achieved by the use of d-c, obtained from a-c, rectified by means of semiconductor valves. Germanium valves in rectifying circuits permit a 4 - 6fold overload as compared to average rated current. As a result a three-phase rectifier unit with nine 1,000-amp-valves assures 12 - 15 kamp welding current. At VNIIESO several variants of d-c machines were investigated and the techniques of welding different metals were studied. A three-phase circuit of d-c resistance welding machines was

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Using d-c in resistance welding

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A006/A101

developed, and a test model of a multi-purpose spot welding machine was designed. Germanium 500 and - 1,000-amp valves were used. The machine assures stabilized welding currents during variations in the network voltage, smooth increment and drop of the welding current and the supply of two current pulses of different intensity and duration. In 1962 the "Elektrik" Plant delivered an industrial model of a d-c spot-welding machine designed by VNIIESO. The technical data are; 40 kamp rated welding current; 2,000 kg maximum welding force; 1,200 mm rated sweep. The large-scale production of d-c resistance welding machines could be started in 1963; however, the insufficient volume of germanium valve production and their high cost are serious obstacles in this project. There are 3 figures.

ASSOCIATION: VNIIESO

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S/135/63/000/002/012/015  
A006/A101

1-2300

AUTHORS: Zaychik, L. V., Candidate of Technical Sciences, Komarchev, A. I.,  
Engineer

TITLE: Capacitor machine for spot welding large-size light-alloy structures

PERIODICAL: Svarochnoye proizvodstvo, no. 2, 1963, 35 - 38

TEXT: In 1961, VNIIESO has designed and tested an experimental model of the MTK-75 type capacitor machine, intended to weld large-size up to 2.5+2.5 mm thick, light-alloy structures. The machine will be produced in series at the "Elektrik" Plant. It operates on three-phase current. The upper electrode is pneumatically driven by means of membranes. The electric power part of the machine consists of a charge and discharge device. Its operation is described in detail. Values  $I_{\text{weld,max}}$ ,  $t_1$  and  $t_2$ , characteristic of the welding pulse, are regulated within a wide range. By tuning the initial voltage on the operating capacitor battery (within 300 - 400 v), its capacitance, and the coefficient of transformation  $\left(\frac{W_1}{W_2}\right)$  of the welding transformer, an unlimited number of different

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Capacitor machine for spot welding...

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A006/A101

welding current pulses can be obtained within the range of extremal pulses. The machine was tested at NIAT. The tests show that the extremal deviations of the rupture load from mean values do not exceed (8 - 12)%, against 14 - 20% for specimens which were welded by using current directly from the network. The main advantages of the machine are the efficiency and stability of pulses and constant welding quality. The relatively low capacitor voltage assures safe operational conditions. As the shape and magnitude of pulses do not depend upon the network voltage and the power required is low, the machine is particularly valuable in cases when high-quality welds are required, using a weak or overloaded electric circuit. Some technical characteristics are:

Rated power from a three-phase network in kvamp . . . . . 75  
Thickness of parts in mm . . . . . from 0.5+0.5 to 2.5+2.5  
Efficiency in welding parts of maximum thickness, spots per minute . . 30  
Maximum welding current pulse  
a) amplitude in kamp . . . . . 80  
b) time of current increase from 0 to the amplitude value in sec . 0.04  
c) full pulse time sec . . . . . 0.12

Card 2/3

Capacitor machine for spot welding...

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A006/A101

Capacitor battery

- a) maximum power storage in kw.sec . . . . . 22
- b) regulation limits of the battery capacitance in  
    /uf (15 steps) . . . . . 9,800 - 274,000
- c) limits of smooth control of the operational voltage  
    of the capacitor battery in v . . . . . 300 - 400

There are 8 figures.

ASSOCIATION: VNIIEBO

Card 3/3



ZAYCHIK, L. V.

"Spot Welding of Aluminum Alloys of Great Thickness With Direct-Current Pulses," Cand Tech Sci, Leningrad Polytechnic Inst, Leningrad, 1954 (RZhKhim, No 22, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

Subject : USSR/Engineering AID P - 5244

Card 1/1 Pub. 107-a - 4/9

Authors : Zaychik, L. V., Kand. of Tech. Sci. and A. M. Kanin,  
Eng., (VNIIESO)

Title : The MTIP-type spot welding machines

Periodical : Svar. proizvod., 8, 18-23, Ag 1956

Abstract : The authors describe the MTIP-300-1, MTIP-450-2 and MTIP-600-2 spot welding machines, their electrical design, their pneumatic feed of electrodes and the electric power required. They provide the technical data for each of the machines and the maximum thickness of the parts weldable. Two tables, 5 formulae, 11 graphs, and 3 drawings. Three Russian references (1952-54).

Institutions: All-Union Scientific Research Institute of Electric Welding Equipment (VNIIESO), and Central Scientific Research Institute of Machine-Building Technology (TsNIITMASH).

Submitted : No date

Зайчик Л. В.

SUBJECT: USSR/Welding. 135-1-8/14

AUTHOR: Zaychik L. V., Candidate of Technical Sciences.

TITLE: Spot welding brass on type МТМП machines. (Tochechnaya svarka latuni na mashinakh tipa МТМП).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, #1, pp 24-26. (USSR).

ABSTRACT: In 1954, ВНИИЭСО (probably - All Union Research Institute for Electric Welding Equipment) conducted experiments in spot welding of sheet brass on machines МТМП (MTIP) especially designed for this kind of welding. The welds showed satisfactory qualities, and the machines have been found suitable.

Welding was performed on packs of two and more brass sheets in gauges from 2 to 5 mm and in various combinations of thickness.

The article contains in detail the recommended welding regimen and contains 3 photographs, 3 diagrams, and 3 references (all Russian).

INSTITUTION: ВНИИЭСО (ВНИИЭСО)

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 1/1



ZAYCHIK, L.V., kand.tekhn,nauk; KOMISSARCHIK, B.Yu., inzh.

Effect of drive inertia on electrode force during spot and seam welding. Svar. proizv. no.2:14-15 P '61. (MIRA 14:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo oborudovaniya.

(Electric welding)

KOCHANOVSKIY, N.Ya., kand.tokhn.nauk; ZAYCHIK, L.V., kand.tokhn.nauk

Use of a direct current in resistance welding. Svar.proizv.  
no.1:35-36 Ja '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo  
oborudovaniya.

(Electric welding)

ZAYCHIK, L.V., kand.tekhn.nauk; KOMARCHEV, A.I., inzh.

Condenser discharge machine for the spot welding of large-size  
light-alloy structures. Svar. proizvod. no.2;35-38 P '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo  
oborudovaniya.

(Electric welding—Equipment and supplies)

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CIA-RDP86-00513R001964020014-4"

ZAYCHIK, M.

Application of linear programming in establishing work norms.  
Sots. trud 8 no.1:79-88 Ja '63. (MIRA 16:2)  
(Linear programming)  
(Turning--Production standards)

ZAYCHIK, M.

Opportunities for applying linear programming in establishing  
work norms, Sots. trud 6 no. 7: 78-87 J1 '61.

(MIRA 16:7)

(Production standards)

(Linear programming)

ZAYONIK, M.

Determining the number of servicing personnel at oil refineries.  
Sots.trud 4 no.5:85-90 My '59. (MIRA 12:8)  
(Petroleum--Refining--Labor productivity)



ZAYCHIK, M.

Establishing norms for the size of certain categories of auxiliary  
workers. Sots.trud 5 no.3:76-80 Mr '60. (MIRA 13:6)  
(Production standards)

ZAYCHIK, M.

Establishing norms for the number of personnel with the aid of the  
theory of probability. Sots. trud 8 no.10:89-99 0'63. (MIRA 16:12)

ZAYCHIK, M.

Reducing the gap between the complete labor force and absentees.

Biul. nauch. inform.: trud i zar. plata 3 no.8:31-37 '60.

(MIR. 13:9)

(Absenteeism (Labor))

DOROSHENKO, A.; ZAYCHIK, M.

"UPT" television amplifying attachment. Radio no. 10:26-27 0'55.  
(Television--Apparatus and supplies) (MLRA 9:1)



SERYAKOV, Ivan Maksimovich. Prinimali uchastiye: BMDAREV, G.; VETSHUMB, N.;  
DOBROVOL'SKIY, V.; KAPLAN, S.; KOMZA, G.; KOROLEV, I.; KUZGINOV, K.;  
PETROV, V.; SUMAKOV, M.; SMOLYANINOV, N.; USHAKOV, I.; USHAKOV, G.;  
ZAYCHIK, M.I., prof., doktor tekhn.nauk, nauchnyy red.; KOLOMIYTSOVA,  
O.I., red.; ROZEN, E.A., tekhn.red.

[The story of the tractor] Povest' o traktore. Moskva, Izd-vo  
"Sovetskaya Rossiya," 1960. 318 p. (MIRA 13:12)  
(Tractors)

ZAYCHIK, M. I. (Prof.)

"The Exploitation of Diesel Engines at Shops"

report presented at the Scientific-Technical Conference on Questions Regarding the Mechanization of the Lumber Industry, by the Moscow Inst. of Forest Engineering, Moscow, May 1958.

ZAYCHIK, M.Kh.

Horse Breeding

Film about Ukrainian horse breeder. Konevodstvo, 22, No. 2, 1952

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.



ZAYONIK, M.L., inzhener.

Odessa cracking plant. Neftianik 1 no.1:20-21 Ja '56. (MIRA 9:7)

1.Odesskiy kraking-zavod.  
(Odessa--Cracking process)

30222

S/081/61/000/019/067/085  
B117/B110

11,0130

**AUTHORS:**

Rubinshteyn, I. A., Losikov, B. V., Sobolev, Ye. P.,  
Zaychik, M. G.

**TITLE:**

Influence of organic sulfur compounds on the low-temperature  
properties and oxidizability of kerosene - gas-oil fractions

**PERIODICAL:**

Referativnyy zhurnal. Khimiya, no. 19, 1961, 423, abstract  
19M180 (Sb. "Khimiya seraorgan. soyedineniy, soderzhashchikh-  
sya v neftyakh i nefteproduktakh". M., AN SSSR, 1959,  
304 - 315)

**TEXT:** With the aid of gas oils from Romashki and Tuymazy petroleum it  
has been shown that sulfur compounds (SC) prevent the autocatalytic  
development of the oxidation process. The antioxidant effect of SC con-  
sists in their reaction and the reaction of their oxidation products with  
peroxide radicals or hydrogen peroxides of hydrocarbons. Simultaneously,  
SC accelerate the oxidative polymerization and condensation leading to the  
accumulation of tarry substances. The least permissible concentration of  
SC in gas-oil from this standpoint depends on the chemical structure of

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Influence of organic sulfur...

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B117/B110

SC and on the composition of oxidizable gas-oil. At low concentration, SC prevent the formation of acid, hydroxyl-containing, saponifiable substances formed by oxidative decomposition of peroxides. The optimum total S concentration depends on the chemical structure of SC and, apparently, on the chemical composition of gas-oil. The tarry substances contained in Romashki gas-oil are no antioxidants and have no essential effect on the character and kinetics of its oxidation. A profound extraction of SC from kerosene - gas-oil fractions with a small (optimum) quantity of SC is required. The latter is determined in advance for the relevant petroleum product subjected to hydrogenative refining. The presence of SC in paraffin petroleum products promotes the reduction of the temperature of structure formation. [Abstracter's note: Complete translation.] ✓

Card 2/2

ZAYCHIK, Moisey Yur'yevich; ZHUKHOVITSKIY, B.Ya., red.; FRIDKIN,  
L.M., tekhn. red.

[Problems and exercises in theoretical electrical engineer-  
ing] Sbornik zadach i uprazhnenii po teoreticheskoi elektro-  
tehnike. Moskva, Gosenergoizdat. Pt.2. 1963. 175 p.  
(MIRA 16:12)

(Electric engineering)